(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum
Internationales Büro

(43) Internationales Veröffentlichungsdatum
13. Mai 2004 (13.05.2004)

PCT

(10) Internationale Veröffentlichungsnummer
WO 2004/040129 A1

(51) Internationale Patentklassifikation[7]: F02M 65/00

(21) Internationales Aktenzeichen: PCT/DE2003/001852

(22) Internationales Anmeldedatum:
4. Juni 2003 (04.06.2003)

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:
102 49 754.0 25. Oktober 2002 (25.10.2002) DE

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(81) Bestimmungsstaaten *(national)*: BR, CN, IN, JP, KR, PL, US.

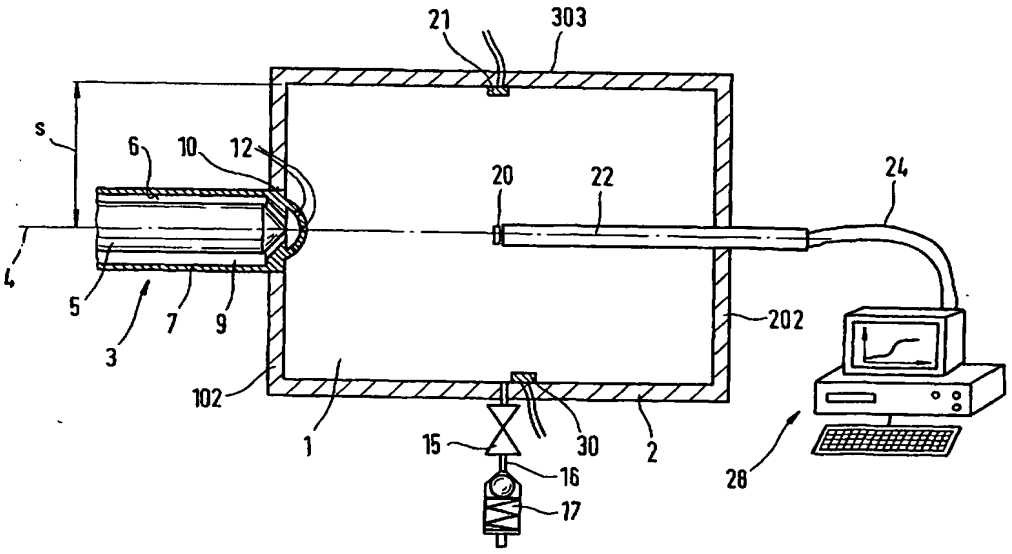
(84) Bestimmungsstaaten *(regional)*: europäisches Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Veröffentlicht:
— *mit internationalem Recherchenbericht*

[Fortsetzung auf der nächsten Seite]

(54) Title: METHOD AND DEVICE FOR MEASURING THE INJECTION RATE OF AN INJECTION VALVE FOR LIQUIDS

(54) Bezeichnung: VERFAHREN UND VORRICHTUNG ZUR MESSUNG DER EINSPRITZRATE EINES EINSPRITZVENTILS FÜR FLÜSSIGKEITEN



(57) Abstract: The invention relates to a method for measuring the injection rate of an injection valve for liquids, preferably liquid fuel, according to which the injection valve (3) injects the liquid into a liquid-filled sensing volume (1) that is sealed on all sides, a pressure sensor (20) being arranged inside the sensing volume. The sound velocity is determined and, as a consequence, the injection quantity (?m) or the progress of the injection rate (r (t)) is calculated from the measured pressure values (p (t)) or by means of a separate measurement. The inventive device comprises a sensing volume (1), an injection valve (3) which protrudes into the sensing volume by means of at least one injection port (12), and a pressure sensor (20) that is disposed within the pressure node of the natural vibration of the pressure of the sensing volume (1).

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Abstract

A method for measuring the injection rate of an injection valve for liquids, preferably for liquid fuel, in which the injection valve (3) injects the liquid into a liquid-filled measurement volume (1), the measurement volume (1) being closed off on all sides and a pressure sensor (20) being located in the measurement volume (1). From the measured pressure values (p(t)) or by a separate measurement, the speed of sound is determined and thus the injection quantity (Δm) or the course over time of the injection rate (r(t)) is calculated. The apparatus includes a measurement volume (1), an injection valve (3), which protrudes with at least one injection opening (12) into the measurement volume (1), and a pressure sensor (20), which is located in the pressure node of the first natural pressure oscillation of the measurement volume (1) (Fig. 1).